other persons in enjoyment of forest privileges. The extent of the operations, and the value of free labour availed of for this purpose, is shown below :—

Division.	No. of boundary marks put up and repaired.	Length of boundary paths cleared and repaired.	Estimated value.
	Miles.	Miles.	Rs. a. p.
Sukkur	7,157	948	1,395 0 0
Naushahro	2,878	20	404 0 0
Hyderabad	1,931	260	984 0 0
Jerruck	2,409	178	819 0 0
Total ...	14,375	1,406	3,602 0 0

38. The riverain forests having been flooded to a greater extent than in the previous year, the number of marks replaced or repaired, as well as the length of the boundary paths cleared, was in excess of the year 1895-96 by 2,554 and 922 miles, respectively.

IV.—Surveys.

Surveys.

39. The Forest Survey branch parties of the Government of India have not yet commenced operations in this Circle. The Riverain Survey has been completed, and the maps prepared have been found to be of great use.

CHAPTER II.

Management of State Forests.

I.—Regulation and Management.

(a) Working Plans and their Control.

Preparation of Working Plans.

40. During the year under report, it might be said the year in which a separate Division for preparing Working Plans came into existence, it was not possible for the officers in charge, Messrs. Napier and Dalal, to undertake more work than was done. After completing the demarcation referred to in paragraph 34, work was commenced in the Sukkur Division at the beginning of January 1897 with a view to the organisation of the Rohri, Dubar Wahan, Katha, Changni, and Hingora Forest Reserves in the Sadhuja Range, which, besides being in close proximity of the North-Western Railway line, come within the direct influence of the annual floods and at the same time, being safe from erosion, are not subject to fluctuations in area. The object of taking these areas first in hand is not simply because they play at present a very important part in the fuel supply of the North-Western Railway and the Quetta Commissariat, but chiefly to carry out the intention I have had all along in view to convert them gradually into babul (Acacia Arabica) and tali (Dalbergia Sissoo) forests by systematic cultural operations, as they are capable of being stocked with these valuable species in place of the existing growth of kandi (Prosopis Specigera) and lye (Tamarix Gallica). This work was finished by the middle of March, when, at the Commissioner's request, Mr. Napier's services were lent for Plague duty, and he was placed under the orders of the Sukkur Plague Committee. Mr. Dalal, Divisional Forest Officer, Hyderabad, then took charge of the Working Plans office in addition to his own, and before the close of the tour season made a survey in advance of the Miani, Muhammad Khan, Kathri, and Matiari babul reserves in order that correct maps may be ready to enable the organisation of these very valuable State properties being taken in hand at the commencement of the following working season.

41. Mr. Napier's operations extended over an area of 17,000 acres, and the details of the work performed by him during the two months and a half he was engaged on it are briefly as follow :—

Details of the work done by the Working Plans Officer.

(i) A careful examination of the forests to compare the growing stock with the estimates thereof as made in the previous year by the Divisional Forest Officer, Sukkur.

(ii) Preparation of correct maps, showing boundaries and compartment lines accurately, a point in which the old maps failed signally.

(iii) Recalculation of area according to the fresh maps.

(iv) The formation of Working Circles and the splitting up of the Circles into "affectations", or periodic blocks, (three in number), corresponding to each period of the rotation.

(v) The selection of the coupes (5) for the first period.

(vi) The marking off on the ground of the first year's coupes.

42. The Working Plans staff sanctioned for the year numbered six Surveyors, one on the permanent establishment and five on the temporary list, but in the past year considerable difficulty was experienced in obtaining qualified men, and it was seldom that the full complement was employed, the difficulty being doubtless increased by the presence of the famine and plague, as one man resigned in December 1896 on obtaining a more lucrative post on Famine Relief Works in the Deccan.

Details of work performed by the Working Plans staff.

43. During the recess season, this staff was employed in preparing fresh maps of the forests of the Circle, five copies of each map being made for the use of the different officers, including a vernacular copy for Sub-Rangers. Of the Surveyors available in the working season, two were employed directly under Messrs. Napier and Dalal for demarcation and organisation, and one Surveyor was attached to each of the Sukkur, Naushahro and Hyderabad Divisions to Survey the river boundary and correct the existing maps as well as to mark out the coupes to be exploited in 1897-98. For the fourth division, Jerruck, no Surveyor could be spared at any time during the season, and therefore both the operations were undertaken by trained Range Forest Officers. A complete statement of the work performed appears as under :—

Details of the work turned out by the Working Plans staff.

Division.	By Working Plans Staff.							By Executive Staff.					
	No. of copies of maps prepared	Length of river frontage surveyed.		No. of copies.	Area of the coupes marked out.		Cost of all the work done	Length of river frontage surveyed.		No. of coupes.	Area of the coupes marked out.		Cost of the work done.
		Miles.	Yards.		Acres.	Guntas.	Rs. a. p.	Miles.	Yards.		Acres.	Guntas.	Rs. a. p.
Sukkur	33	25	1,496	7	1,022	10	13 8 0	...	...	41	4,953	...	...
Naushahro	58	54	1,617	39	3,836	8	...	...	...	1	819	5	...
Hyderabad	120	75	836	26	3,081	22	...	...	...	..	...	...	...
Jerruck	167	...	...	...	...	...	...	6	880	25	3,126	31	...
Total ...	378	156	429	72	7,940	...	13 8 0	6	880	67	8,898	36	..

44. All the reserves capable of being exploited systematically in the several divisions have been roughly differentiated into Working Circles on the maps and are placed under rational treatment.

45. The breaking up of forests into compartments was purposely allowed to stand over, as, under the orders of Government contained in their Resolution No. 3822 in the Financial Department, dated 11th November 1896, owing to pressing demands on the Treasury, all avoidable expenditure had to be postponed.

Cutting up of Reserves into compartments.

During the year, only 56 miles of compartment lines as against 152 in the previous year were cut and cleared, at an average cost of Rs. 9-12-3 per mile, which cost rate is in excess of that of the last year by about Rs. 2 in consequence of the difficulty of procuring labour at reasonable rates, due to the outbreak of the plague.

Progress made in cutting up forests into compartments.

46. The year's work and that remaining to be done is exhibited in the following statement:—

Division.	Area cut up into compartments up to 1st July 1896.		Area cut up during 1896-97.		Total area cut up into compartments.		Area still remaining to be cut up.
	Acres.	Length in miles of rides 20 feet wide.	Acres.	Length in miles of rides 20 feet wide.	Acres.	Length in miles of rides 20 feet wide.	Acres.
Sukkur ...	*203,307	1,310	5,870	17	209,177	1,327	78,541
Naushahro ...	*83,764	523	1,668	4	85,432	527	71,368
Hyderabad ...	103 055	530	5,022	29	108,077	559	10,900
Jerruck ...	96,196	561	1,200	6	97,396	567	20,070
Total ...	486,322	2,924	13,760	56	500,082	2,980	180,879

* Disforested area has been excluded.

(b) Annual Plans of Operations.

Annual Plans of Operations.

47. The provision of the plans it was somewhat difficult, in a year like that of 1896-97 in which pestilence raged throughout the province, to adhere to. When quarantine and other restrictions were first imposed, there was a wide spread scare among-t the coupe contractors and their work people, which was with considerable difficulty somewhat appeased. Operations in some forests actually came to a stand still, and additional time to exploit the remaining material in such coupes as were left wholly or partially unworked at the expiry of the contract period had to be granted.

II.—Working of the year.

(a) Communications and Buildings.

(1) Roads.

Roads.

48. As explained in paragraph 39 of the Administration Report for the year 1894-95, hardly any necessity exists for undertaking the construction of any expensive forest roads.

(2) Buildings.

Buildings.

49. The expenditure on buildings as compared with that of the previous year was as follows:—

Year.	New work.	Repairs.	Total.
	Rs.	Rs.	Rs.
1895-96 ...	212	335	547
1896-97 ...	122	335	457

50. A good deal of work remains to be done in all divisions under this head in building quarters for the subordinate staff. In this respect, the Jerruck Division is the worst, in which during the year three new *landhis* were erected at a cost of Rs. 122.

51. No works were carried out through the agency of the Public Works Department.

(b) Protection of Forests from Injury.

(1) General Protection and Breaches of Forest Law.

(a) General Protection.

52. The protective establishment has remained unchanged during the year.

Fresh instructions have been issued by Government on the proposals relating to the reorganisation of the subordinate Forest establishments submitted in response to their Resolution No. 5811, dated 29th July 1896, and all the Conservators in the Bombay Presidency have been directed to consult together and resubmit them on a uniform plan.

(b) Breaches of Forest Law.

Cases tried by Magistrates.

53. The following statement shows the number of cases tried by Magistrates for breaches of Forest law during the years 1895-96 and 1896-97, with the result of the trials :—

Division.	Cases of 1895-96.						Cases of 1896-97.						Pending in Court on 1st July 1897.	Percentage of failure.	
	Pending in Court on 1st July 1895.	Taken into Court during the year.	Total.	Disposed of by Magistrates during the year.			Pending in Court on 1st July 1896.	Taken into Court during the year.	Total.	Disposed of by Magistrates during the year.				1895-96.	1896-97.
				Convicted.	Acquitted.	Total.				Convicted.	Acquitted.	Total.			
Sukkur ...	...	29	29	12	8	20	9	31	40	19	9	28	12	40	32
Naushahro ...	3	28	31	12	11	23	8	14	22	11	4	15	7	48	27
Hyderabad ...	4	25	29	17	8	25	4	11	15	2	3	5	10	32	60
Jerruck ...	...	3	3	1	1	2	1	4	5	2	2	4	1	50	50
Total ...	7	85	92	42	28	70	22	60	82	34	18	52	30	40	35

54. The year opened with 22 cases awaiting trial and 60 were taken into Court during the year. Of the total number, 52 were disposed of by the 30th June 1897, with the result that there were 34 convictions and 18 acquittals. The percentage of failures for the Circle has fallen from 40 to 35, which appears still somewhat high, but it is not actually so. When the number of prosecutions is small, as in the Sukkur and Jerruck Divisions, the slightest variation in the number of cases convicted or acquitted affects the proportion so considerably as to tend to an abnormal rise or fall in the percentage of failures, and such being the case in the year 1896-97 the results are not discouraging as they appear at first sight, but show a geneal improvement over those of 1895-96.

Comparative statement of prosecutions.

55. In the statement following, the number and nature of new cases taken into Court during the two years 1895-96 and 1896-97 are compared :—

Division.	New cases of the year.								Total.	
	Injury to forest by fire.		Unauthorised felling or appropriation of wood and other minor forest produce.		Grazing without permission or in tracts in which grazing is prohibited.		Other offences.			
	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.
Sukkur ...	...	3	19	6	8	7	2	15	29	31
Naushahro ...	2	1	11	3	...	...	15	10	28	14
Hyderabad ...	...	...	17	8	4	1	4	2	25	11
Jerruck ...	...	1	1	1	2	...	...	2	3	4
Total ...	2	5	48	18	14	8	21	29	85	60

56. In the Naushahro and Hyderabad Divisions, the number of new prosecutions is considerably less than in the year preceding, whereas in the other two it varies but little. This is the natural result of the special rules framed by the Commissioner in Sind, under which trivial offences are, as a rule, now compounded (*vide* paragraph 56 of the last Administration Report).

Two serious cases of theft of tali timber (Dalbergia Sissoo) from an old plantation created in the seventies in the Kadrapur Forest, near Sukkur, were brought to light, one of which was successfully prosecuted, and the other is under enquiry.

In five fire cases, the incendiaries were traced, and conviction was obtained only in two cases. In one, the offender was acquitted. One of the incendiaries has absconded into foreign territory (Bahawalpur), and a warrant is out against him, and one case was under trial at the close of the year. In the case acquitted, the culprit was seen attempting to fire the forest, but the witnesses who had given the information to the Range Forest Officer retracted their statements before the Magistrate.

57. The unauthorized clearing of forest growth for cultivation in a couple of new Reserves in the Naushahro Division, which was remarked on in paragraph 55 of last year's report, was again persisted in. There were 8 such cases during the year, for the successful prosecution of which Forester Tekchand, Range Forest Officer, Kandiaro, deserves great credit.

Working of the special rules under S. 67 of the Indian Forest Act.

58. Reports from Divisional Forest Officers have been called for on the working of the special rules framed by the Hon'ble Mr. James for the treatment of offences compounded under S. 67 of the Indian Forest Act, which were reproduced *in extenso* under paragraph 56 of last year's report, but they have not yet come to hand. The rules have so far been known to cause some inconvenience. Doubtless, they side on leniency, but at the same time it has been found in practice that the limit of Rs. 5 up to which compensation for offences coming under Rule I-A can be accepted by Divisional Forest Officers has this disadvantage—that, when the produce stolen for use by a villager, and not for trade, is of higher value, as is not unfrequently the case, the only course open is to resort to prosecution or to accept compensation much below the real value of the stolen property. In order not to subject the poor population to unnecessary harassment as well as to save the time of the Forest Subordinates and Magistrates, the latter course is usually followed. It will be, therefore, necessary on the receipt of the Divisional Forest Officers' reports on the subject to address a special communication to the Commissioner in Sind with a view to the rules being modified in this particular as well as in others.

Cases compounded under S. 67.

59. The details of cases compounded during the year under report are compared with those of the previous year in the subjoined table :—

Division.	Offences relating to						Total.	
	Illicit grazing.		Theft.		Other offences.			
	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.
Sukkur ...	1,014	1,151	54	53	...	...	1,068	1,204
Naushahro ...	184	155	30	83	...	...	214	238
Hyderabad ...	351	405	20	50	...	1	371	456
Jerruck ...	318	240	53	24	...	...	371	264
Total ...	1,867	1,951	157	210	...	1	2,024	2,162

60. Under the first head, the Divisional Forest Officers, Sukkur and Hyderabad, attribute the increase to greater vigilance on the part of the Protective staff, not only in detecting cattle trespass in open forests, but also in keeping browsers out of the areas in which they were prohibited to graze. The decrease in Naushahro and Jerruck, on the other hand, is due to the activity displayed by some of the Range Forest Officers in petrolling their forests, resulting in the owners of cattle preferring to pay the legitimate dues instead of running the risk of paying the fines in addition when their cattle are caught actually trespassing.

A somewhat larger number of theft cases, in which are included offences relating to lopping of trees by goatherds and other graziers, appear in the Naushahro and Hyderabad Divisions. In Sukkur, it is about the same as in the previous year; but in Jerruck it is again reduced. Protection of the forests from theft in all the divisions has not reached that standard of perfection as the number of cases dealt with since 1893-94 would lead one to believe. The forests show signs of unauthorised loppings and misappropriation of small building timber—perhaps, not to the same extent as in former days—, but it has to be acknowledged that the number of such offences actually committed is far in excess of that shown annually in the returns as dealt with by Divisional Forest Officers. A good many either go undetected, owing to the numerical strength of the Protective staff being weak, or, what is equally probable, when discovered, the low-paid Forest Guards connive with the offenders for obvious reasons, and fail to report them.

61. Exclusive of illicit grazing cases which are commuted on a fixed scale under the special rules mentioned above, the number compounded, together with the sums of money accepted and received by Divisional Forest Officers, by payment of money compensation under S. 67 of the Indian Forest Act, compared with the figures of 1895-96, stood as under :—

Division.	1895-96.		1896-97.	
	Number of cases.	Compensation.	Number of cases.	Compensation.
		Rs.		Rs.
Sukkur ...	54	141	53	182
Naushahro ...	30	48	83	111
Hyderabad ...	20	75	51	87
Jerruck ...	53	155	24	61
Total ...	157	419	211	441

N. B.—The compensation from 1951 cases of illicit grazing amounted during the year to Rs. 2,437 as against Rs. 2,142 from 1,867 cases of the year previous.

62. The details of these 211 compounded cases, as well as those coming under "illicit grazing," required under Government Resolution No. 1899, dated 13th March 1891, are given in the following statement. The average compensation per case is Re. 1-5-4 :—

Division.	Number of cases in which compensation was fixed at Rupees															Total.
	1	2	3	4	5	6	7	8	9	10	11	12	14	15	18	
Sukkur	626	290	149	48	45	14	9	7	5	3	2	3	2	...	1	1,204
Naushahro	181	42	7	2	4	1	...	...	...	...	...	...	...	1	...	238
Hyderabad	393	32	10	8	11	2	...	...	...	...	...	...	...	...	...	456
Jerruck	138	76	32	5	9	1	2	1	...	...	...	...	...	...	...	264
Total ...	1,338	440	198	63	69	18	11	8	5	3	2	3	2	1	1	2,162

63. The information given below is in accordance with paragraph 11 of Government Resolution No. 1899 of the 15th March 1891 :—

Division.	Number of complaints disposed of under S. 67.	Number of cases in which compensation has been accepted	Number of appeals against the proceedings.	Manner in which appeals have been disposed of.
Sukkur	1,204	1,204	...	...
Naushahro	241	*238	...	...
Hyderabad	456	456	...	...
Jerruck	264	264	...	...
Total ...	2,165	2,162	...	...

* 3 cases were let off with a warning.

64. The following table gives a classification of the new cases of the year under the various heads of crime in the form prescribed in circular letter No. 9-171-1-F. of the Government of India, dated 10th June 1897 :—

Division.	Cases taken into Court.				Cases compounded.				Cases undetected.				Total Cases.				Grand Total of Cases.
	Injury to forests by fire.	Unauthorised fellings or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Injury to forests by fire.	Unauthorised fellings or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Injury to forests by fire.	Unauthorised fellings or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Injury to forests by fire.	Unauthorised fellings or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	
Sukkur ...	3	6	7	15	...	50	1,151	3	25	26	...	...	28	82	1,158	18	1,286
Naushahro ...	1	3	...	10	...	83	155	...	12	...	...	...	13	86	155	10	264
Hyderabad ...	...	8	1	2	...	50	405	1	...	14	...	...	...	72	406	3	481
Jerruck ...	1	1	...	2	...	24	240	...	...	...	...	...	1	25	240	2	268
Total ...	5	18	8	29	...	207	1,951	4	37	40	...	...	42	265	1,959	33	2,299

(*2*) *Fire Protection.*

Forest fires.

65. The results of the year's fire protection as compared with those for the year 1895-96 are shown below :—

Division.	Number of fires.		Area burnt.	
	1895-96.	1896-97.	1895-96.	1896-97.
			Acres.	Acres.
Sukkur ...	88	28	6,653	1,416
Naushahro ...	17	12	329	281
Hyderabad ...	16	16	1,236	1,241
Jerruck ...	24	16	2,666	1,037
Total ...	145	72	10,884	3,975

66. Fire protection was generally successful in all divisions, and the work was a little lightened by the season being not so unfavourable as the last for fire conservancy. The river commenced to rise earlier and kept up to about its normal height between the last week in June and the middle of September, so that the forests were not in such an inflammable condition as they were in 1895-96. The punitive measures enforced in some of the forests in Upper and Central Sind in that year have also had the desired effect in that the number of fires was visibly less, especially in the Sukkur Division.

67. It is also satisfactory to be able to record that fire discipline was successfully maintained. The good will of the villagers in repairing to the scene readily and cheerfully to fight fires was remarkable, and it is due to their efforts as well as to those of the Protective staff that, out of the 72 fire occurrences, 23 were extinguished before they had time to cause hardly any damage. Fires got out of hand only in two instances, when there was a strong breeze blowing continuously for hours. In one case, the worst one of the year, the fire, having been observed on the 10th February 1897 at about 3 o'clock in the afternoon, was with considerable difficulty got over by midnight, but unfortunately was relighted by sparks from a smouldering log owing to a gale of wind having sprung up at about noon on the following day—such storms being of frequent occurrence at the time of the year. In the other, both the subordinates and villagers were helpless, as it had taken a strong hold of the impenetrable mass of reeds before they reached the scene, and consequently all attempts to suppress it were set at defiance, owing to the inflammable material which was ablaze as well as the high wind which was raging at the time.

The treatment of detected offences in regard to fire protection is tabulated below in the form required by the Government of India in their Resolution quoted in paragraph 64 of this report :—

Division.	Details of prosecutions for offences by fire.						Remarks.
	Serial number of fire.	Acres burnt.	Character of offence (whether careless or intentional).	Whether acquitted or convicted.	Section of law under which convicted.	Amount of punishment.	
Sukkur ...	1	1	Intentional.	Convicted.	S. 25 of I. F. Act, 1878.	Fine Rs. 25.	
Sukkur ...	2	250	„	...	...	...	Case pending in Court.
Sukkur ...	3	25	„	...	...	...	Do.
Naushahro ...	1	...	„	Acquitted.	...	...	The offender did not actually set fire, but was attempting to do it.
Hyderabad ...	...	...	...	..	...	...	
Jerruck ...	1	21	Intentional.	Convicted.	(*b*) S. 25 of I. F. Act, 1878.	Two persons fined Rs. 5 each.	
Total ...	5	297					

68. The following is a statement of the causes of the different fires, prepared in accordance with the instructions contained in the Resolution quoted above :—

Division.	(A.) Fire caused by accident or through carelessness in burning fire lines.		(B.) Fire entering the forests by crossing exterior fire traces.		(C.) Fire beginning inside the Reserve or fire-traced area.												Cases unknown.		Total A, B and C.	
					Owing to carelessness or accident.						By intentional firing.						Total.			
					By workmen employed in the forests, by purchasers of forest produce and by yahcutters		By villagers, travellers, &c., passing through the forests.		By Railway engines.		By lightning or by fire balloons.		In order to obtain new grass.		In order to turn out game or to reduce cover.		Maliciously fired.							
	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.	No. of fires.	Area burnt in acres.
Sukkur ...	...	...	5	77	2	51	4	233	...	...	...	...	16	805	...	...	1	250	23	1,339	...	...	28	1,416
Naushahro..	1	4	2	48	...	...	8	46	...	...	...	...	...	...	...	...	...	...	8	46	1	183	11	98
Hyderabad..	...	...	...	...	2	850	8	171	2	35	...	...	3	145	...	...	1	40	16	1,241	...	...	16	1,241
Jerruck ...	3	138	2	30	2	123	8	696	...	...	...	...	1	50	...	...	...	...	11	869	...	...	16	1,037
Total ...	4	142	9	155	6	1,024	28	1,146	2	35	...	...	20	1,000	...	...	2	290	58	3,495	1	183	71	3,792

69. The most serious case of fire (paragraph 67) occurred in the Unarpur Range of the Hyderabad Division, burning 750 acres, and was suspected to have been caused by the labourers who had been engaged by the coupe contractor to work for him. The principal constituent of this tract being exploitable bahan, growing amongst a dense mass of reeds, it was thought that, to facilitate exploitation, the fire was intentionally lighted. There was naturally no proof to connect any individual with the crime, and the contractor could not be taken to task as, under his agreement, he was able to prove that his workmen were employed in another part of the forest on the day the fire occurred. There being, however, a very strong suspicion, especially as his workmen would be the only gainers by the burning of the grass in that locality, that the fire was lighted by some one of them, the extraction of small bahan timber was immediately prohibited from the burnt compartments. Once the grass was got rid of, the daily outturn of work would be considerable, and almost double wages could be earned for the rest of the season. The prohibition enforced, therefore, deprived them from realising any advantage they might have sought to obtain.

70. As a rule, the number of fires for obtaining a fresh crop of grass exceeds that originating from any other cause. But from the figures shown in the above statement it will appear that, during the year of this report, that cause has not been the principal source of mischief, no less than 28 fires of the total number having been attributed to the carelessness of villagers and travellers passing through the forests on their way to and from the ferries on the river.

(3) Regulation of Grazing and Protection from Cattle.

(a) Grazing Regulations.

Grazing regulations.

71. There is nothing special to note under grazing arrangements in addition to what has been already recorded in former reports. They are suited to the Province and, having been in force for the last quarter of a century, the people seem to be well satisfied with them. The quality of the grazing in Sind is liable to changes,

which cannot be foreseen, depending as it does on the greater or less extent to which the annual floods reach the forests, or, at times, never touching them at all, when the river recedes and leaves them high and dry. In a couple of forests, the grazing having been found undoubtedly to have become worse, a lower scale of fees was charged in them on a representation to that effect having been made by the cattle owners and villagers living in their vicinity.

(*b*) **Protection from Cattle.**

Area opened and closed to grazing.

72. Form No. 54 gives the areas closed and open to grazing during the year 1896-97, which, as compared with those of the year before, show that against all animals the area of closures has risen from $79\frac{199}{640}$ to $108\frac{168}{640}$ square miles, and that against browsers from $167\frac{607}{640}$ to $373\frac{435}{640}$ square miles. The areas given in column 3 of Form No. 54 for both years ($19\frac{127}{640}$ and $22\frac{267}{640}$, respectively), it has to be noted, are temporary punitive closures for the prevention of forest fires, the object being to keep out cattle of the incendiary *maldars* from grazing on the fresh and nutritious crop of grass which springs up almost at once in the fired tracts, and thereby defeating the very purpose they have in view.

73. The extent of the closures in each division at the commencement and close of the year, with other details, is given in the following statement :—

Division.	AREA IN SQUARE MILES.								Total area of Reserved Forests.	Percentage of total area closed.
	Closed at commencement of the year.		Opened during the year.		New closures of the year.		Closed at the end of the year.			
	Whole year	Part of year.	Whole year.	Part of year.	Whole year.	Part of year.	Whole year.	Part of year.		
					All animals.					
Sukkur	17 359	12 148	...	7 552	16 299	18 31	34 18	22 267	449 358	12
Naushahro ...	7 382	...	3 354	...	6 85	...	10 113	...	245 0	4
Hyderabad ...	22 153	...	...	...	7 145	...	29 298	...	185 577	16
Jerruck ...	12 19	...	4 245	...	4 338	...	12 112	...	183 346	7
Total ...	59 273	12 148	7 599	7 552	34 227	18 31	85 541	22 267	1,064 1	10
					Browsers.					
Sukkur	1 262	80 467	...	...	142 597	...	225 46	...	449 358	50
Naushahro ...	42 413	...	1 160	...	58 227	...	99 480	...	245 0	41
Hyderabad ...	43 39	...	3 411	3 80	...	...	36 188	...	185 577	19
Jerruck ...	...	...	...	...	12 361	...	12 361	...	183 346	7
Total ...	87 74	80 467	4 571	3 80	213 545	...	373 435	...	1,064 1	35

74. Cultural operations having been undertaken on a larger scale than before not only in the felled coupes of the year, but in blanks both in the Sukkur and Naushahro Divisions, it naturally follows that the area closed to all animals must be greater. At the same time, it will be noticed that, in accordance with the instructions quoted in paragraph 62 of the report for 1894-95, an aggregate area of $12\frac{53}{64}$ square miles, in which reproduction was assured and the further prohibition of grazing wherein would simply be a source of annoyance to the villagers, was re-opened. The almost irretrievable damage which is being committed by browsers in Upper and Central Sind had, moreover, to be checked. Hence, the increase in the area closed to such animals.

Impoundings of cattle.

75. The number of cattle impounded during the year under report and the year before in open and closed forests is given below :—

Division.	From open forests.		From closed forests.		Total.	
	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.
	No.	No.	No.	No.	No.	No.
Sukkur	5,465	7,025	3,856	9,734	9,321	16,759
Naushahro	2,630	1,703	3,905	5,268	6,535	6,971
Hyderabad	2,670	1,716	6,082	7,583	8,752	9,299
Jerruck	804	923	3,427	3,507	4,231	4,430
Total ...	11,569	11,367	17,270	26,092	28,839	37,459

76. The impoundings for the whole Circle from open forests vary but little, the larger number in the Sukkur and Jerruck Divisions being nearly counterbalanced by the smaller

number in the other two. In the latter, it has been already stated (paragraph 60) that the graziers appear to have realised that the chances of escaping detection were so limited, owing to the vigilance of the subordinates, that they took out grazing permits before driving their cattle into the forests instead of running the risk of paying the fines in addition. The cause of the increase under closed forests will be found explained in paragraph 78.

77. The following statement shows the number of cattle of different kinds impounded in the several divisions during the year :—

Division.	Kind of area.	Cows and Bullocks.	Buffaloes.	Camels.	Horses.	Asses.	Goats and Sheep.	Total from	
								Open.	Closed.
		No.	No.	No.	No.	No.	No.	No.	No.
Sukkur ...	Open ...	1,899	1,063	386	49	53	3,575	7,025	...
	Closed ...	1,626	1,192	434	36	60	6,386	...	9,734
Naushahro ...	Open ...	402	190	166	8	92	845	1,703	...
	Closed ...	1,802	773	496	54	47	2,096	...	5,268
Hyderabad ...	Open ...	256	136	157	...	3	1,164	1,716	...
	Closed ...	2,217	683	770	...	20	3,893	...	7,583
Jerruck ...	Open ...	406	206	41	5	2	263	923	...
	Closed ...	1,310	521	524	17	33	1,102	...	3,507
Total ...	Open ...	2,963	1,595	750	62	150	5,847	11,367	...
	Closed ...	6,955	3,169	2,224	107	160	13,477	...	26,092

78. Increased trespass by browsers was to be expected, following, as it did, the necessity of excluding these pests to forest conservancy from a larger area. The total of all kinds of animals captured in closed blocks amounts to 26,092 head, while browsers alone to 15,701, whereas the figures for the previous year shown in the statement under paragraph 78 are, respectively, 17,270 and 7,388.

The information required under paragraph 5 of Government Resolution No. 8265, dated 21st October 1896, is given below :—

Division.	Number of animals captured in closed blocks.	Number of animals covered by passes for open forest.
Sukkur	9,734	3,204
Naushahro ...	5,268	3,068
Hyderabad ...	7,583	3,051
Jerruck	3,507	1,204
Total ...	26,092	10,527

79. In connection with the matter of impoundings, the following remarks may be found interesting.

There are *maldars* in almost every range who defy the subordinates and indulge in illicit grazing, principally at night, and keep their animals tethered in the day in the densest parts of the forest. To catch them is by no means an easy task, as their owners are daring and do not hesitate to use criminal force when interfered with. The Range Forest Officers and Forest Guards now and then go prepared to resist intimidation of this sort, and sometimes succeed in effecting seizures, but even then the cattle owners refuse to compound the offence and register their cattle, and prefer to be mulcted in Pound fees, which are heavier than the fines imposed under the departmental rules. The reason for this is not far to seek, as most of them are either professional cattle-lifters themselves or are harbourers of stolen cattle. The former have no fixed place of abode, and leave one forest directly the Police or Forest officers are on their track to go to another, perhaps across, or many miles down, the river, especially

if the stolen animals are buffaloes, as they can swim for hours with the current when properly led, in order that their whereabouts may not be discovered; whereas the latter, I noticed during my tour, not unfrequently take up their abode in the densest part of the forests in defiance of all previous orders. It was, therefore, necessary to call the attention of the Divisional Forest Officers as well as their subordinates in a special circular quoted below to mitigate the evil caused by such miscreants finding shelter in the forests:—

"Notwithstanding the orders not to allow cattle-breeders and professional graziers to squat in such localities as are not easily accessible, the Conservator noticed with regret during his inspection that cattle-sheds had, in some instances, been suffered to be constructed in the heart of dense jungle within forest limits. As the forests are apt to harbour cattle-thieves and other bad characters, Divisional Forest Officers are requested to see that the orders given below are strictly carried out in future, and to report for the orders of the Conservator all cases in which there are reasonable grounds for believing that they have been set at defiance by collusion with Forest subordinates:

1. No one should be permitted to reside within forest limits without having previously obtained the written permission of the Range Forest Officer.

2. The permission so given should be immediately communicated to the Divisional Forest Officer.

3. Suitable sites for *maldars* now living on the borders of rides, on the banks of *dhands*, or on the edge of forests should be selected by Range Forest Officers, and, on their being approved, should be marked off and fenced in.

4. If a new site is required by a *maldar*, he should not be permitted to squat thereon until the site has been approved of by the Divisional Forest Officer and enclosed by a hedge by the intended settler, after being demarcated by the Range Forest Officer.

5. Squatters living in any site not approved of and marked off as aforesaid should be at once turned out of the forest, and, if necessary, the aid of the Police should be sought for this purpose.

6. The selection of sites should be carefully performed, and they should be neither too many in number nor too far between. Arrangements should be made to so locate them as can easily admit of a good number of the graziers settling at one place, instead of being scattered throughout the length and breadth of the forest.

7. The extent of a site chosen should be restricted to five acres. This limit should neither be exceeded nor reduced, except under special circumstances, which should be reported to the undersigned, and no two of them should on any account be more than a mile apart.

8. A register in the accompanying form should be kept by all Range Forest Officers, in which all settlements which have been duly approved of and sanctioned by Divisional Forest Officers should be entered.

9. From this register, a quarterly list of such settlements should be prepared and submitted by Range Forest Officers to their respective Divisional Forest Officers, who should on receipt of the same forward for the information of the District Magistrate and the Superintendent of Police extracts therefrom appertaining to the forests coming within their respective jurisdictions.

10. The squatters should be made to clearly understand that their residence within forest limits is subject to the pleasure of the Department during their good behaviour, and if at any time it is discovered that their presence is intolerable, or is otherwise deemed to be injurious to forest conservancy, their summary eviction from the land will inevitably follow.

11. Divisional Forest Officers when out on inspection duty should make it a point to have at hand the last list in their office, and personally verify the accuracy of the entries in it.

12. As soon as the work of selection is completed in accordance with the foregoing orders, Divisional Forest Officers will have the sites so approved of, as also those that may be fixed upon subsequently, marked on the maps in their and Range Forest offices.

13. Care should be taken to see that *maldars*, etc., are not harrassed, or made to shift from place to place by Police or Forest subordinates, for purposes of their own."

(c) **Fencing.**

Fencing.

80. The erection of hedges was carried out as usual with the aid of the forest population in consideration of the privileges enjoyed by them. The amount of work turned out free of cost through this agency is tabulated below :—

Division.	Length of hedges in miles.	Estimated value.
		Rs.
Sukkur ...	270	4,538
Naushahro ...	17	380
Hyderabad ...	166	424
Jerruck ...	92	1,322
Total ...	545	6,664

(c) *Improvement of Forest growth.*

(1) *Natural Reproduction.*

Natural reproduction.

81. As it was to be expected in a year of normal inundation, natural reproduction as a whole, whether by seed or by coppice, was plentiful in all the riverain forests which are not completely cut off by protective embankments erected by the Irrigation Department, or which are not high-lying. In fact, it was what may be termed a "model" season, the level to which the floods reached being neither too high nor too low, and, combined also, as it was, with effective protection from fires and injurious grazing, it resulted in the general improvement of the growth. Unfortunately, the very heavy frosts of the year did some irreparable damage, chiefly in Upper and Central Sind, not only to the self-sown babul seedlings of the year, but to older growth of the same species as well. * The frost was so severe in some localities that branches of mature trees exposed to its influence completely dried up and withered away. The injury was confined to the young crop of babul seedlings which were in the open and not under parent or other trees, although in a few instances it was noticed that the young growth even in open ground had escaped damage. The majority of the seedlings which suffered and were nipped to the ground made a fresh start in the spring, and are reported to be doing well. In high-lying lands beyond the influence of the floods, natural reproduction by seed was almost a *minus* quantity, as the rainfall of the Province, scanty as it is, was much more deficient than in ordinary years. In such of the unirrigated forests as were closed to browsers, the coppice growth showed a marked improvement.

82. The character of the inundation of 1896 as compared with that of the previous year, and its consequent effect on the forests, will be gathered from the details given below :—

Division.	Total area of Division.	AREA IRRIGATED DURING THE INUNDATION SEASON OF		Area capable of being irrigated in abnormal inundations.
		1895.	1896.	
	Acres.	Acres.	Acres.	Acres.
Sukkur ...	287,718	84,700	121,455	212,000
Naushahro ...	156,800	15,000	34,659	88,800
Hyderabad ...	118,977	60,000	50,657	100,000
Jerruck ...	117,466	47,000	88,500	95,000
Total ...	680,961	206,700	295,271	495,800

* *Note.*—The temperature at night and in the early mornings between the 14th and 24th January was very low the thermometer having registered from 6 to 14 degrees of frost.

(2) *Artificial Reproduction.*

Reproduction projects.

83. The forests being now worked systematically, the plans for reproduction of the areas felled over require to be considered in detail before they can be given effect to. In coupes which are flooded, the natural reproduction is so good that they present hardly any difficulty. Broad-casting a little seed to cover blanks which may occur here and there is all that is needed to assure their complete regeneration. In such lands, however, if it is intended to substitute a better species in place of that exploited, the cultural operations have to be carried on under a definite scheme. In the year under report, Divisional Forest Officers drew up projects not only for each coupe separately, but also for other lands which required immediate treatment, and issued clear and explicit orders to their subordinates in order that such areas may be reproduced within the shortest time possible. For reclothing high-lying lands to which surface moisture has to be brought from an adjacent canal or the river either by flow or lift, to enable the self or artificially sown seed to germinate first and the plants to live afterwards till they reach the moisture bearing strata, special arrangements have to be made. The cost of the operations which these arrangements entail is so heavy that the Department can ill afford to spend money on them, and therefore the most economical way is to seek the aid of the nearest zamindar or cultivator to carry them out, whenever it is volunteered. The Kot Sultan plantation referred to in paragraph 83 of last year's report is a case in point, where the preparing of the soil and the irrigation of the land is done by flow. But there are other tracts which can only be irrigated by raising the water by means of Persian wheels. The reproduction of the latter economically has been under my consideration for some time past, and the ways and means of doing so were matured during the year, and the scheme introduced from the 1897 inundation season is briefly as follows :—

AREAS WATERED BY LIFT.

(*a*) One-fourth of the area given out for cultivation annually to be treated as a plantation, and such cultural operations as may be necessary to be carried out by the cultivator.

(*b*) The area so treated to be watered during four successive seasons at the cultivator's expense.

(*c*) A hedge, 4 feet in height, to be constructed by the cultivator round the planted area, and to be kept in proper repair by him for four years.

(*d*) During the first year, the cultivator to pay full assessment on the area planted as well as that cultivated.

(*e*) In the second year, no concession to be claimed for watering the plantation.

(*f*) In the third and fourth years, an area equal to that planted in the first year to be allowed to be cultivated free of assessment in return for irrigating the plantation during those years.

(*g*) For failure on the part of the cultivator to fulfil conditions *a*, *b*, and *c*, as well as for neglect to protect the plantation, the cultivator to pay a penalty of Rs. 100 in the first year; in the second, the penalty to amount to double the assessment levied in the year the plantation is created; and the penalty to be three times the assessment, if he neglects to water or to look after the plantation in the third or fourth year.

84. The cultural operations of the year in the different divisions are briefly described below :—

Cultural operations in the Sukkur Division were carried on in almost every range. The following were the chief works undertaken :—

KOT SULTAN RANGE.—To the regular plantation of 201 acres created last year with the aid of field crops in the Kot Sultan Reserve, 687 acres were added and treated on the same lines, 297 maunds of babul were sown and 2,000 tali (Dalbergia Sissoo) and 2,000 asri (Tamarix Articulata) slips were also planted in this extension. The method of sowing the seed was altered : instead of sowing it in lines, it was broad-casted at the same time as the cereals. The rigour of the frosts, however, retarded somewhat the growth of the seedlings of the year as well as those of the year before. In another Reserve, Bakapur near Jacobabad, a similar project was drawn up, but it could not be successfully carried out, as it depended on the Nurwah for the water-supply, which, being not over sufficient for the needs of the agricultural classes outside forest limits, was cut off just when the plantation required it most.

ABAD RANGE.—A regular plantation of 10 acres was created in the Abad Forest, in which 1,839 plants raised in nurseries were transplanted, 1,600 of which were doing well at the end of the year. Besides this, 496 seedlings were transplanted in a small plot in the Kadrapur Forest, but here the number of plants alive was only 156. In the former, the plants were watered by hand throughout the season, whereas in the latter they were left to nature. In old cultivation sites, the level of which had been raised by successive silt deposits, 127 maunds of babul seed were broad-casted over 448 acres, the reproduction in which is excellent and has hardly been injured by frosts. 3,240 tali slips were put down in blanks, but only 700 of them survived, and 115 asri out of 1,100.

MIRPUR RANGE.—The introduction of tali in some of the reserves was also tried. An area of 4 acres in all was successfully planted with slips and transplants, which varied in growth from 2½′ to 3′ in height at the end of the year. 48 maunds of babul seed were broad-casted in old cultivated sites in which reproduction is assured.

SADHUJA RANGE.—The results of the year's work were not so successful as in the other ranges, as only 410 out of the 6,350 tali and asri seedlings laid down survived. The cause of such a large number failing to strike is simply due to the operations having not been undertaken direcly the flood water drained off the land. Blanks measuring 150 acres were sown with 148 maunds of babul seed, the reproduction in which is very satisfactory, only 20 per cent. of the seedlings having been killed outright by frost.

KASHMOR RANGE.—A tali nursery was started in the Gublo Forest, in which 300 plants are being reared for transplanting next season. Only 300 tali and asri cuttings out of the 4,500 said to have been put down in the several forests were alive on the 30th June 1897. Old fields in these recently acquired reserves were sown broad-cast with very encouraging results, an area of 334 acres being covered with a dense growth of babul.

SUKKUR RANGE.—Under a special arrangement hereafter described, a babul plantation covering 100 acres was created in the Garhi Halim Reserve. A cultivator volunteered to construct a masonry sluice at his own expense in a branch of the Sind Wah and to lay no claim to it if he were allowed to cultivate 200 acres for two years on payment of *assessment ruling for the adjacent village lands.* His offer was accepted, and by means of this sluice not only 100 acres out of his total grant were successfully sown with babul seed, but a large portion of the forest was irrigated as well.

In addition to the above operations in the Sukkur Division, the work of filling up vacancies as well as that of introducing babul in place of the existing growth of kandi and lye in exploited coupes was also undertaken in all the ranges, and about 500 maunds of seed were scattered over an area of 2,914 acres.

85. A sufficient quantity of babul seed was collected in the Naushahro Division, but all of it was not utilised in the expectation that the inundations would reach a still higher level later on and that it would be better to delay operations, but this expectation was not realised. 155 acres were treated on the Kot Sultan lines, but the soil being inferior the growth is said to be in a sorry plight. 500 maunds were broad-casted over an area of 900 acres in the exploited coupes.

86. As reproduction can be assured without, hardly, any artificial aid in most of the forests of the Hyderabad Division, only 83 maunds of babul seed were sown to fill up gaps.

87. The operations in the Jerruck Division were chiefly confined to areas felled over in the preceding cold weather, and 535 maunds of babul seed were used for this purpose as well as for reclothing blanks. One coupe was artificially reproduced with the aid of a cereal crop.

(3) *Early thinnings.*

88. No such operations were carried out in this Circle.

(4) *Other operations for the improvement of the growing stock.*

Improvement of the growing stock.

89. It is very unsatisfactory that the orders mentioned in paragraph 90 of last year's report remained again almost unheeded. In the Hyderabad Division, the work of weeding out the kamu (Fluggeo leucopyrus) extended over 1,367 acres only, that is to say, about 8 compartments. The Divisional Forest Officer, Jerruck, reports that "nothing was done, or very little. The subordinates were continually ordered by me in my inspection to attack the kamu shrub, but I am afraid that very little was done."

(5) *Experiments.*

Experiments.

90. The experiments with the rain tree undertaken hitherto in the Jerruck Division cannot be called a success The few seedlings that have survived are too high and unfit for transplanting. One pound of the seed was sown in prepared seed beds in the Miani Garden (Hyderabad Division) in the last week of April 1897. Almost all of it germinated by the end of that month, and by the beginning of May the seedlings were 13 inches high. 140 of them were thinned out and put down in another place in the same garden, but they were not sufficiently strong at the close of the year to be transplanted on *kalar* lands.

91. Anjan seed (Hardwickia binata) procured from Khandesh was sown in several nurseries, but in only two of them—Sadhuja and Gublo—have the seedlings survived, there being 80 in the former and 50 in the latter.

92. The Sabai grass seed obtained from the officer in charge Botanical Survey, Poona, under the orders of Government contained in their Resolution No. 4615, dated 19th June 1895, has failed to germinate wherever it was sown. It is worthy of notice that the Prosopis glandulosa, which was experimentally cultivated in all divisions, has now been fairly established and reproduces itself naturally. Several self-sown seedlings are now found in the vicinity of the parent trees.

(d) *Exploitation of major Forest produce.*

Exploitation of major Forest produce.

93. There is little to add to the details recorded last year (paragraph 94).

Areas set apart for exploitation during the year.

94. The following statement shows the area of the coupes set apart for exploitation during the working season, commencing from 1st December 1896 and ending on 30th September 1897 :—

Division.	Area of			Total.
	Regeneration fellings.	Coppice fellings.	Selection fellings.	
Sukkur ...	600	11,340	...	11,940
Naushahro ...	267	3,161	1,000	4,428
Hyderabad ...	2,001	1,380	1,500	4,881
Jerruck ...	669	933	...	1,602
Total ...	3,537	16,814	2,500	22,851

95. The area in which felling operations were conducted is less by 5,988 acres than in the previous year, owing chiefly to a revision of the areas under each type of forest having been made, which resulted in the operations being limited accordingly, and partly to some

of the coupes in the Jerruck Division, in which the standing crop was very inferior (936 acres), not finding purchasers.

96. The exploitation of small bahan timber, such as posts, rafters, etc., under the selection method was confined to the Hyderabad and Naushahro Divisions to meet the large demand for such produce in the city of Hyderabad. The area for such operations was curtailed as the fellings in the past had been heavy and some of the forests had been overworked.

(e) *Exploitation of major Forest produce by land and water.*

Coupe contract system and its difficulties.

97. The system of extraction introduced in the year previous was continued, and it has taxed all the energies of the Department to bring it to a successful issue The disposal of the coupes was effected with an immense deal of trouble and worry. There was hardly any response to the invitation of tenders, and such as were received were very low. Knowing this, the old contractors tried to play fast and loose with the Department in order to secure the contracts on easy terms. It was therefore necessary to remain firm and break the combination amongst them, and disabuse them as well of the idea they had run away with that they were indispensable. It was also currently reported that coercion was being used to dissuade other intending purchasers who had been persuaded to make satisfactory offers. A firm of Borab merchants in Karachi, after obtaining the necessary particulars regarding the contract for one of the divisions and giving me hopes that they would come to an understanding in a couple of days, suddenly withdrew. On enquiry, it was found that the diffidence on their part arose from an apprehension that they would not be able to work the contract, in that the principal wood-cutters and boatmen were indebted more or less to the old contractor, who had enjoyed a monopoly to work in these forests for over a quarter of a century, and the latter would have the means of harassing the former by having recourse to the provisions of Act XIII of 1859 to recover the debts, if he found that his men had taken employment under a new contractor. In fact, all sorts of rumours were circulated by interested parties to the prejudice of the Department, and at one time the situation became very critical, indeed. Finding that the working season was fast approaching and no arrangements for the extraction of major Forest produce had been concluded, the sale of the coupes of the Jerruck Division only by public auction was advertised as a last resource, by way of experiment, with the result that the old contractor was outbidden by three others in very many instances, and all the coupes, except seven, were disposed of at favourable rates. Thus, a beginning was made during the year to create competition. Two out of the three new purchasers are petty contractors with small capital, and have given the Department entire satisfaction. Before this auction was held, the contractors who had purchased the 1895-96 coupes of the other three divisions, fearing to be ousted by new men, as it actually happened afterwards in the case of the Jerruck Division, agreed to the proposal previously made to them to buy the coupes at the Departmental valuation and their offer was accepted, as it was not probable that so very late in the season an auction sale in their case would have given better results.

(f) *Exploitation of minor Forest produce.*

(1) *Extraction of Fodder.*

Extraction of fodder.

98. There is nothing further to be added to the remarks made in former reports.

(2) *Grazing.*

Grazing.

99. The inundation being a normal one, there was sufficient grazing available for the animals admitted into the open portions of the riverain forests.

100. A comparison is made in the following statement of the number of the animals licensed for grazing at full and privileged rates during the years 1895-96 and 1896-97 :—

Division.	No. of animals.	
	1895-96.	1896-97.
Sukkur ...	204,478	134,948
Naushahro ...	123,654	128,245
Hyderabad ...	144,923	204,330
Jerruck ...	95,820	109,793
Total ...	568,875	577,316

101. The decrease in Sukkur is due to cattle disease, insufficient fodder in two sub-ranges, and the closure of a larger area than in the year before to browsers. A larger number of animals availed themselves of the grazing within forest limits in the other three divisions than in 1895-96, hence the increase.

(3) *Miscellaneous.*

102. There is nothing special to record under this head.

CHAPTER III.

Gross Yield and Outturn of Forest Produce.

I.—Departmental Operations.

(*a*) *Timber.*

103. A comparative statement showing the outturn of timber extracted by Government agency is given below :—

Outturn of timber.

Year.	Timber in the Rough.		Sawn Timber.		
	Logs.	Poles.	Planks.	Sleepers.	Slabs.
	No.	No.	No.	No.	No.
1895-96	3,101	32,610	2,506	2,040	...
1896-97	153	3,706	...	...	...
Decrease ...	2,948	28,904	2,506	2,040	...

104. In the subjoined table is given an abstract of Form No. 59, which exhibits a detailed account of timber cut and collected by Departmental agency and that brought to Sale Depôts or sold locally .—

Description of Timber.	Balance on 1st July 1896.	Outturn of the year.	Total.	Disposed of during the year.	Balance on 30th June 1897.
Sukkur Division.	No.	No.	No.	No.	No.
Logs	...	151	151	124	27
Poles	...	3,706	3,706	1,352	2,354
Naushahro Division,					
Logs	...	...	...	...	...
Poles	...	...	...	...	...
Hyderabad Division.					
Logs	...	...	...	...	...
Poles	4,141	...	4,141	4,141	...
Jerruck Division.					
Logs	...	2	2	2	...
Poles	...	...	...	...	...